

Engineering Project Description:

In the Engineering Project, contestants must design and build something that solves a problem they come up with. The criteria and detailed point breakdown for the Engineering project can be seen below on this page. The student will be required to show what they have built through the means of picture or video. They can do the same for submitting their design. Their abstract, brainstorm, reflection, and conclusion can also be submitted the same way, but they also have the option of submitting those as a PDF document. The method the contestant chooses to submit will not impact how it is judged. The contestant only has to choose one method to submit, but can choose more if they want to.

Where to submit your project:

You can submit your video/picture/PDF to our email, contact@tsoonline.org, if the file is less than 25 MB. If the file is greater than 25 MB, share it with our email account via Google Drive.

Engineering Rubric

Criteria:	1st Judge	2nd Judge	Total
Abstract	___/15	___/15	___/30
Brainstorm	___/5	___/5	___/10
Design	___/15	___/15	___/30
Reflection on Design	___/10	___/10	___/20
Final Product	___/15	___/15	___/30
Conclusion	___/10	___/10	___/20
Resourcefulness	___/15	___/15	___/30
Difficulty	___/15	___/15	___/30
Tiebreaker: Communication	___/5	___/5	___/10
Overall Total:	___/100 + ___/5 (Only Add For	___/100 + ___/5 (Only Add For	___/200 + ___/10 (Only Add For

	Tiebreaker)	Tiebreaker)	Tiebreaker)
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Point Breakdown:

<u>Point Value (0-15)</u>	<u>Excellent (11-15)</u>	<u>Average (6-10)</u>	<u>Poor (0-5)</u>
Abstract	Excellent summary of project and results, and includes a concise problem statement. The length is also 400 words or less.	Summary of project and results are present, and includes a problem statement. The length is also 400 words or less.	Poor summary of project and results, and/or does not include a problem statement, and/or length is not 400 words or less <u>OR</u> No abstract is present.
Design	Excellent rough copy of the design for the product. The schematic is neat and drawn with labels. (Note: Design can be done on a computer program or on paper)	Satisfactory rough copy of the design for the product. The schematic is drawn with labels.	Rough copy of the design for the product is unimpressive. The schematic contains labels that are haphazardly placed and it clearly lacks organization. <u>OR</u> There is no rough copy or schematic of the design.
Final Product	Final product is able to completely solve the problem stated in the abstract section. It is well-designed, well-built, and very effective at solving the problem.	Final product is able to solve the problem stated in the abstract section.	Final product is not able to solve the problem stated in the abstract section. <u>OR</u> There is no final product.

Resourcefulness	<p>Shows an exceptional ability of making use of resources available at home to form a creative and efficient solution to the problem.</p> <p style="text-align: center;"><u>OR</u></p> <p>The project is entirely (or partially) conducted out of home. The use of resources is still exceptional.</p>	<p>Shows an ability of making use of resources available at home. The materials used were somewhat chosen well, and the final product was somewhat efficient.</p> <p style="text-align: center;"><u>OR</u></p> <p>The project is entirely (or partially) conducted out of home. The use of resources is acceptable for not being done at home.</p>	<p>Takes little advantage of the resources available to them at home. The materials used were poorly chosen and the final product was inefficient.</p> <p style="text-align: center;"><u>OR</u></p> <p>The project is entirely (or partially) conducted out of home. The use of resources is subpar.</p>
Difficulty	<p>The problem solved is very difficult and it is evident that the contestant pushed themselves.</p>	<p>The problem solved is somewhat difficult, and it is evident that the contestant pushed themselves somewhat.</p>	<p>The problem solved is not difficult, and it is evident that the contestant did not push themselves at all.</p> <p style="text-align: center;"><u>OR</u></p> <p>No problem is solved.</p>

<u>Point Value (0-10)</u>	<u>Excellent (8-10)</u>	<u>Average (4-7)</u>	<u>Poor (0-3)</u>
Reflection on Design	<p>The contestant gives a concise and professional reflection on the schematic they created. This section includes what needs to be changed, kept,</p>	<p>The contestant gives a somewhat concise and professional reflection on the schematic they created. Only includes some of the criteria listed in the first column of this</p>	<p>The contestant gives a poor reflection on the schematic they created. The contestant includes very little, or none of the criteria listed in the first column of this criteria.</p>

	and added to the final product and why.	criteria.	<u>OR</u> No Reflection on Design section is present.
Conclusion	The conclusion summarizes the findings of the project. It should include a concise problem statement, and a superb summary of the problem-solving process.	A conclusion is present, and summarizes the findings of the project. A problem statement is present, and a summary of the problem-solving process is present.	The conclusion does a subpar job at summarizing the findings of the project, detailing the problem statement, and detailing the problem-solving process. <u>OR</u> No conclusion is present.

<u>Point Value (0-5)</u>	<u>Excellent (4-5)</u>	<u>Average (2-3)</u>	<u>Poor (0-1)</u>
Brainstorm	The contestant produces an excellent and well-thought out list of possible solutions to the problem stated in the abstract. A very detailed pro/con list is also included.	The contestant produces a list of possible solutions to the problems stated in the abstract. A pro/con list is also included.	The contestant produces a short list of a few possible solutions to the problem. Some of the solutions thought of may not even work. No pro/con list is included, or if it is, it is evident very little effort was put into it. <u>OR</u> No Brainstorm section is present.
Communication (Tiebreaker)	The project demonstrates a high	The project is presented in a	The project is not presented in a

	level of professionalism in its presentation.	somewhat professional manner.	professional manner.
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For projects in which a certain criteria is not present, that project will receive an automatic zero for that criteria.

If you plagiarize, you will automatically be disqualified.

If you have any additional questions/concerns regarding the TSOA Technology Project Rubric please reach out to us via email at: contact@tsoaonline.org