

NHSEE Judging Criteria for Engineering Projects

Project Title & Entry #:	
No Evidence: Does not meet the criteria.	No Evidence = 0
Emerging: Understands basic concepts but cannot elaborate.	Emerging = 1
Proficient: Meets requirements of the criteria.	Proficient = 2
Advanced: Exceeds expectations.	Advanced = 3
Instructions: For each numbered criteria, enter a score of 0, 1, 2 or 3 based on definitions above.	
Criteria	Score
I. Research Problem	9 Points
1. Describes a practical need or problem to be solved.	
2. Defines criteria for proposed solution.	
3. Explains project constraints (material/resources, space, cost, time, manufacturability)	
II. Design & Methodology	15 Points
4. Demonstrated knowledge of engineering design process.	
5. Clearly identified and explained key engineering concepts relating to the problem.	
6. Performed engineering evaluation for the design (e.g. calculations, sketches, material selection).	
7. Developed a theoretical solution to the problem.	
8. Designed a process to test the solution.	
III. Execution: Construction and Testing	21 Points
9. Built a prototype per the student's design.	
10. Prototype has been tested in multiple conditions/trials (Scoring: 0 = No Tests; 1 = 1-2 Tests; 2 = 3 Tests; 3 = 4 or more Tests).	
11. Well-documented and complete engineering notebook present that contains dates, times, observations, materials, methods, procedures, data, references and thoughts.	
12. Modified and improved prototype based on test results.	
13. Applied engineering concepts to design modifications	
14. Prototype demonstrates success in solving the problem.	
15. Conclusions reached relate back to problem statement.	
IV. Creativity	12 Points
16. Original topic or an improvement for an existing design or process.	
17. Design and approach to the project is unique.	
18. Solution selected to answer the problem statement is innovative.	
19. Creative suggestions for changes to the prototype/solution, and/or possibilities for further study.	
Subtotal Page 1:	
Comments/Notes:	
V. Presentation	39 Points
Poster	12 Points
20. Neat, well-organized, visually appealing, and is readable at ~2 feet distance.	
21. Flows logically from problem to design to prototype to testing to conclusion.	
22. Includes key components of the engineering design process.	
23. Pictures, diagrams, charts, and graphs intuitively and effectively convey information about the project.	
Interview	27 Points
24. Student interview logically followed the engineering design process while presenting.	
25. Student engaged with judges, using the poster as a visual aid.	
26. Student was enthusiastic about their project.	
27. Provided clear, concise, thoughtful responses to questions.	
28. Understood the engineering concepts relevant to the project.	
29. Understood the interpretation and limitations of results and conclusions.	
30. The degree of independence of which the student conducted the project.	
31. Recognition of potential impact to science, society, and/or engineering design.	
32. Quality of ideas for future research.	
Abstract	4 Points
33. Project abstract contains all required parts. (Scoring: 4 Points if meets criteria, 0 if not).	
Subtotal Page 2:	
Subtotal Page 1:	
Total:	
Comments/Notes:	
Total Score: ____/100	