JUDGING GUIDELINES FOR SSEF (extracted from ISEF 2010 Judging Guide)

The guidelines below apply to both ATS and SSEF. However, selected candidates of ATS will undergo additional interviews with a different set of judging criteria.

Scoring

I. Creative Ability (Individual - 30, Team - 25)

1) Does the project show creative ability and originality in the questions asked?
   a) in the approach to solving the problem?
   b) in the analysis of the data?
   c) in the interpretation of the data?
   d) in the use of equipment?
   e) in the construction or design of new equipment?

2) Creative research should support an investigation and help answer a question in an original way.

3) A creative contribution promotes an efficient and reliable method for solving a problem. When evaluating projects, it is important to distinguish between gadgetry and ingenuity.

II. (a) Scientific Thought (Individual - 30, Team - 25)
   (If an engineering project, please see II (b) Engineering Goals.)

1) Is the problem stated clearly and unambiguously?

2) Was the problem sufficiently limited to allow plausible attack? Good scientists can identify important problems capable of solutions.

3) Was there a procedural plan for obtaining a solution?

4) Are the variables clearly recognized and defined?

5) If controls were necessary, did the student recognize their need and were they used correctly?

6) Are there adequate data to support the conclusions?

7) Does the student/team recognize the data’s limitations?

8) Does the student/team understand the project’s ties to related research?
9) Does the student/team have an idea of what further research is warranted?

10) Did the student/team cite scientific literature, or only popular literature (e.g., local newspapers, magazines)?

II. (b) Engineering Goals (Individual - 30, Team - 25)

1) Does the project have a clear objective?

2) Is the objective relevant to the potential user’s needs?

3) Is the solution workable, acceptable to the potential user, economically feasible?

4) Could the solution be utilized successfully in design or construction of an end product?

5) Is the solution a significant improvement over previous alternatives or applications?

6) Has the solution been tested for performance under the conditions of use?

III. Thoroughness (Individual - 15, Team - 12)

1) Was the purpose carried out to completion within the scope of the original intent?

2) How completely was the problem covered?

3) Are the conclusions based on a single experiment or replication?

4) How complete are the project notes?

5) Is the student/team aware of other approaches or theories?

6) How much time did the student/team spend on the project?

7) Is the student/team familiar with scientific literature in the studied field?

IV. Skill (Individual - 15, Team - 12)

1) Does the student/team have the required laboratory, computation, observational and design skills to obtain the supporting data?
2) Where was the project performed? (i.e., home, school laboratory, university laboratory) Did the student/team receive assistance from parents, teachers, scientists or engineers?

3) Was the project completed under adult supervision, or did the student/team work largely alone?

4) Where did the equipment come from? Was it built independently by the student/team? Was it obtained on loan? Was it part of a laboratory where the student/team worked?

V. Clarity (Individual - 10, Team - 10)

1) How clearly does the student/team discuss his/her/their project and explain the purpose, procedure, and conclusions? Watch out for memorized speeches that reflect little understanding of principles.

2) Does the written material reflect the student’s/ team’s understanding of the research?

3) Are the important phases of the project presented in an orderly manner?

4) How clearly is the data presented?

5) How clearly are the results presented?

6) How well does the project display explain the project?

7) Was the presentation done in a forthright manner, without tricks or gadgets?

8) Did the student/team perform all the project work, or did someone help?

VI. Teamwork (Team Projects only- 16) – applicable to SSEF only

1) Are the tasks and contributions of each team member clearly outlined?

2) Was each team member fully involved with the project, and is each member familiar with all aspects of the project?

3) Does the final work reflect the coordinated efforts of all team members?
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Individual Project</th>
<th>Team Project *</th>
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</thead>
<tbody>
<tr>
<td>Creative Ability</td>
<td>30 points</td>
<td>25 points</td>
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<tr>
<td>Scientific Thought / Engineering Goals</td>
<td>30 points</td>
<td>25 points</td>
</tr>
<tr>
<td>Thoroughness</td>
<td>15 points</td>
<td>12 points</td>
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<td>Skill</td>
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<td>12 points</td>
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<tr>
<td>Clarity</td>
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<td>10 points</td>
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<tr>
<td>Teamwork</td>
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<td>16 points</td>
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<tr>
<td>Total Possible Score</td>
<td>100 points</td>
<td>100 points</td>
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* There is no Team Category in ATS.

We strongly recommend that students write their names on every piece of paper submitted. Only complete entries can be judged fairly. Please do not send incomplete entries.