Informational Handbook - Exhibit Judges

Judging Criteria

For a comparison of Experimental and Design Projects click here.

Experimental Project Criteria

(printable rubric for judges here)

Scientific Method: (A-H) 53 Maximum Points

A Evidence of Knowledge Gained (8 points)

1. Has the student acquired significant knowledge of skills by doing this project?
2. Does the exhibitor recognize the scope as well as the limitations of the problem selected?

B Evidence of Scientific Approach (8 points)

1. Has the problem been well defined?
2. Is the chain of reasoning clear and correct?

C Evidence of experimental approach: variable (8 points)

1. Did the student collect data from his/her own experiment?
2. Did the student test a single variable for each experimental group?
3. Were all other variables controlled or accounted for?

D Evidence of experimental approach: control group (8 points)

Were methods of control appropriate, effective, and evident?

E Reliability of data (7 points)

1. Are experimental results reported with appropriate accuracy?
2. Is the collected data numerical and metric, where applicable?
3. Has data been collected from repeated trials? Is it reliable?
4. Are sources of experimental error described and/or evaluated?

Design Project Criteria

(printable rubric for judges here)

Design Process: (A-H) 61 Maximum Points

A Design Processing Skills (8 points)

1. Student exhibits a thorough understanding and application of the design process.
2. Has the exhibitor acquired design skills?

B Design Approach: Overall (8 points)

1. Has a need or real world problem been identified?
2. Was there a logical, orderly method for addressing the problem or need?
3. Is the method appropriate and effective?

C Design Approach: Performance Criteria (8 points)

Did the student develop clear performance criteria to address the features of the product, algorithm, proof, model, etc.?

D Design Approach: Preliminary Design Plan (8 points)

1. A clear plan was presented using a block diagram, flowchart or sketch.
2. The design plan shows all of the parts and/or subsystems of the design and how they all work together.

E Constructing and Testing the Design Prototype (8 points)

The student has constructed and tested a prototype of his/her best design. This may involve targeted users and/or an analysis of data sets.

F Redesign and Retest (8 points)

1. The student shows evidence that changes in design were made in response to initial testsing in order to better meet the performance criteria

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F Validity of conclusion (7 points)

1. Has the student started with known facts, added new experimental information, and drawn relevant conclusions?
2. Are the conclusions consistent with the data?
3. Can the work be the basis for further experimentation?
4. Can the work be replicated by others and similar conclusions drawn?

G Estimating Experimental Errorr (2 points)

Measurement error affecting the conclusion has been considered.

H Originality (5 points)

1. Does the project demonstrate a novel approach or idea?
2. Does the project demonstrate a high level of creativity?

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established at the beginning of the project.
2. If applicable, test results and data analysis/validation are present.

G Validity of evaluation/Conclusions (8 points)

The conclusion accurately reports the successes and failures of the preliminary design, what changes were made and how the redesign more closely met the performance criteria.

H Originality (5 points)

1. The student demonstrated a novel approach and/or idea.
2. The student exhibits a creative approach to design.
3. Evidence shows that other designs were investigated that addressed the same need or real world problem.

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Display: (I & J) 8 Maximum Points

I Information (4 points)

1. Does the display effectively support the theme of the investigation?
2. Is the data on the display organized in the most explicit way to present the particular type of information involved?
3. Are charts, pictures, and graphics appropriately used?

J Artistic Qualities (4 points)

Is the display neat, organized, and appealing with no spelling errors?

Display: (I & J) 6 Maximum Points

I Information: Experimental (3 points)

1. Does the display effectively support the theme of the investigation?
2. Is the data on the display organized in the most explicit way to present the particular type of information involved?
3. Are charts, pictures, and graphics appropriately used?

J Artistic Qualities (3 points)

Is the display neat, organized, and appealing with no spelling errors?

Verbal Report: (K & L) 8 Maximum Points

K Presentation Quality (4 points)

1. Does the presentation clearly and precisely summarize the project?
2. Is the information relevant and pertinent?
3. Does the presentation include enough technical

Verbal Report: (K & L) 6 Maximum Points

K Presentation Quality (3 points)

1. Does the presentation clearly and precisely summarize the project?
2. Is the information relevant and pertinent?
3. Does the presentation include enough technical

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information to be convincing?

L Dynamics (4 points)

1. Does the student speak fluently with good eye contact?
2. Is the presentation lucid, articulate, and interesting?

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information to be convincing?

L Dynamics (3 points)

1. Does the student speak fluently with good eye contact?
2. Is the presentation lucid, articulate, and interesting?

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Written Report: (M-W) 30 Maximum Points

M Abstract (3 points)

Does the Abstract contain no more than 200 words in three paragraphs entitled: Purpose, Procedure, and Conclusion using the proper IJAS form?

N Safety Sheet (2 points)

1. Have all safety hazards been identified?
2. Does the safety sheet have appropriate signatures affixed?

O Title Page/Table of Contents (2 points)

Are both present?

P Purpose and Hypothesis (2 points)

Has a problem been defined and a prediction made?

Q Review of Literature (5 points)

1. Have known facts and principles been handled appropriately?
2. Is literature cited pertinent to the topic and cited using American Psychological Association (APA) format?

R Materials (2 points)

Are the materials listed and measurements made in metric units where applicable?

S Procedure (2 points)

Written Report: (M-X) 26 Maximum Points

M Abstract (2 points)

Does the Abstract contain no more than 200 words in three paragraphs entitled: Purpose, Procedure, and Conclusion using the proper IJAS form?

N Safety Sheet (2 points)

1. Have all safety hazards been identified?
2. Does the safety sheet have appropriate signatures affixed?

O Title Page/Table of Contents (2 points)

Are both present?

P Acknowledgements (1 points)

Credit has been given to those who have helped with the project.

Q Problem or Need (2 points)

Has a real world problem or need been defined and a prediction made?

R Review of Literature/Background Research (4 points)

1. Have known facts and principles been researched in depth?
2. Is literature cited pertinent to the topic and cited using American Psychological Association (APA) format?

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Does the procedure follow a logical protocol with all steps included?

T Results (4 points)

1. Are the results organized into tables and graphs and easily understandable by someone not familiar with the work?
2. Is the data quantitative and explanations given when necessary?

U Conclusions (3 points)

1. Has the student stated known facts, added new experimental information, and drawn relevant conclusions?
2. Is there a concise evaluation and interpretation of the data?
3. Does the conclusion refer back to the purpose and hypothesis?

V Reference List (3 points)

1. Are the quality and quantity of references current and adequate for the topic?
2. Are the resources listed cited within the Review of Literature using APA format?

W Conventions (2 points)

Are grammar and spelling correct?

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S Design Plan (2 points)

1. Is the design plan complete and easy to follow?
2. Are all parts and/or subsystems of the design included?

T Results of Testing and Redesign (2 points)

1. Have the testing results led to a redesign in order to meet the performance criteria?
2. Are any changed in the design shown or explained clearly?

U Evaluation/conclusion (2 points)

1. Is there a concise evaluation and interpretation of the data?
2. Does the conclusion refer back to the purpose of the design project?

V Reference List (2 points)

1. Are the quality and quantity of references current and adequate for the topic?
2. Are the resources listed cited within the Review of Literature using APA format?

W Technical Aspects (3 points)

1. Has the student used standards for technical writing?
2. Are grammar and spelling correct?
3. Are the resources listed cited within the Review of Literature using APA format?

X Neat and Orderly (2 points)

Is neat and follows the format as illustrated on the left side of the judging rubric (items M-V).

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