

# JUDGING CRITERIA FOR PROJECTS

## SCIENCE

### I. Research Question (10 points)

- clear and focused purpose
- identifies contribution to field of study
- testable using scientific methods

### II. Design and Methodology (15 points)

- well designed plan and data collection methods
- variables and controls defined, appropriate, and complete

### III. Execution: Data Collection, Analysis, and Interpretation (20 points)

- systematic data collection and analysis
- reproducibility of results
- appropriate application of mathematical and statistical methods
- sufficient data collected to support interpretation and conclusions

### IV. Creativity (20 points)

- project demonstrates significant creativity in one or more of the above criteria

### Va. Presentation: Poster (10 points)

- logical organization of material
- clarity of graphics and legends
- supporting documentation displayed

### Vb. Presentation: Interview (25 points)

- clear, concise, thoughtful responses to questions
- understanding of basic science relevant to project
- understanding interpretation and limitations of results and conclusions
- degree of independence in conducting project
- recognition of potential impact in science, society and/or economics
- quality of ideas for further research
- for team projects, contributions to and understanding of project by all members

## ENGINEERING

### I. Research Question (10 points)

- description of a practical need or problem to be solved
- definition of criteria for proposed solution
- explanation of constraints

### II. Design and Methodology (15 points)

- exploration of alternatives to answer need or problem
- identification of a solution
- development of a prototype/model

### III. Execution: Construction and Testing (20 points)

- prototype demonstrates intended design
- prototype has been tested in multiple conditions/trials
- prototype demonstrates engineering skill and completeness

### IV. Creativity (20 points)

- project demonstrates significant creativity in one or more of the above criteria

### Va. Presentation: Poster (10 points)

- logical organization of material
- clarity of graphics and legends
- supporting documentation displayed

### Vb. Presentation: Interview (25 points)

- clear, concise, thoughtful responses to questions
- understanding of basic science relevant to project
- understanding interpretation and limitations of results and conclusions
- degree of independence in conducting project
- recognition of potential impact in science, society and/or economics
- quality of ideas for further research
- for team projects, contributions to and understanding of project by all members