

### FINAL JUDING CRITERIA FOR SCIENCE PROJECTS

CRITERIA	POOR	USUAL AVERAGE	GOOD	HIGH	VERY HIGH	EXCELLENT
<b>Research Question</b>		<ul style="list-style-type: none"> <li>States purpose of research</li> <li>Testable using scientific methods</li> </ul>		<ul style="list-style-type: none"> <li>States a clear and focused purpose of the research</li> <li>Testable using scientific methods</li> </ul>		<ul style="list-style-type: none"> <li>States a clear and focused purpose of the research</li> <li>Testable using scientific methods</li> <li>Identifies contribution to the field of study</li> </ul>
<b>Design and Methodology</b>		<ul style="list-style-type: none"> <li>Proposes valid data collection methods</li> <li>Identifies suitable variables and control parameters</li> </ul>		<ul style="list-style-type: none"> <li>Proposes well-designed plan and valid data collection methods</li> <li>Identifies and defines some key variables and control parameters</li> </ul>		<ul style="list-style-type: none"> <li>Proposes well-designed plan and valid data collection methods</li> <li>Identifies and defines all key variables and all appropriate control parameters</li> </ul>
<b>Execution: data collection, analysis and interpretation</b>		<ul style="list-style-type: none"> <li>Identification of data to be collected and analysed</li> <li>Application of mathematical and statistical methods</li> </ul>		<ul style="list-style-type: none"> <li>Systematic identification of data to be collected and analysed</li> <li>Appropriate application of mathematical and statistical methods</li> <li>Sufficient amount of data collected to support interpretation and conclusions</li> </ul>		<ul style="list-style-type: none"> <li>Systematic identification of data to be collected and analysed</li> <li>Results can be reproduced</li> <li>Appropriate application of mathematical and statistical methods</li> <li>Sufficient amount of data collected to support interpretation and conclusions</li> </ul>
<b>Creativity</b>		<ul style="list-style-type: none"> <li>Project demonstrates some creativity in one or more of the above criteria</li> </ul>		<ul style="list-style-type: none"> <li>Project demonstrates significant creativity in some of the above criteria</li> </ul>		<ul style="list-style-type: none"> <li>Project demonstrates significant creativity in all of the above criteria</li> </ul>
<b>Poster</b>		<ul style="list-style-type: none"> <li>Adequate information about project provided</li> <li>Use of graphics and legends</li> </ul>		<ul style="list-style-type: none"> <li>Logical organization of material</li> <li>Adequate use of graphics and legends</li> </ul>		<ul style="list-style-type: none"> <li>Logical organization of material</li> <li>Adept use of graphics and legends that convey information with clarity</li> <li>Supporting documentation displayed</li> </ul>
<b>Interview</b>		<ul style="list-style-type: none"> <li>Thoughtful responses to questions</li> <li>Displays understanding of basic science relevant to project</li> <li>Average degree of independence in conducting project</li> </ul> <p><b>For team projects:</b></p> <ul style="list-style-type: none"> <li>Contribution to project and understanding of project are uneven among members</li> </ul>		<ul style="list-style-type: none"> <li>Clear, concise, thoughtful responses to questions</li> <li>Displays good understanding of basic science relevant to project</li> <li>Displays keen understanding of interpretation and, limitations of results and conclusions</li> <li>Moderately high degree of independence in conducting project</li> </ul> <p><b>For team projects:</b></p> <ul style="list-style-type: none"> <li>Every team member has equal contribution and understanding of project</li> </ul>		<ul style="list-style-type: none"> <li>Clear, concise, thoughtful responses to questions</li> <li>Displays good understanding of basic science relevant to project</li> <li>Displays keen understanding of interpretation and, limitations of results and conclusions</li> <li>High degree of independence in conducting project</li> <li>Recognition of potential impact in science, society and/or economics</li> <li>Quality of ideas for further research</li> </ul> <p><b>For team projects:</b></p> <ul style="list-style-type: none"> <li>Every team member has equal contribution and understanding of project</li> <li>Amount of effort put into the project is commensurate with number of team members</li> </ul>

### FINAL JUDGING CRITERIA FOR ENGINEERING PROJECTS

CRITERIA	POOR	USUAL AVERAGE	GOOD	HIGH	VERY HIGH	EXCELLENT
<b>Research Problem</b>		<ul style="list-style-type: none"> <li>• Identification of a practical need or problem to be solved</li> <li>• Defines criteria for proposed solution</li> </ul>		<ul style="list-style-type: none"> <li>• Clear description of a practical need or problem to be solved</li> <li>• Defines criteria for proposed solution</li> </ul>		<ul style="list-style-type: none"> <li>• Clear description of a practical need or problem to be solved</li> <li>• Defines criteria for proposed solution</li> <li>• Provides explanation of constraints</li> </ul>
<b>Design and Methodology</b>		<ul style="list-style-type: none"> <li>• Identification of a solution</li> <li>• Development of a prototype/model</li> </ul>		<ul style="list-style-type: none"> <li>• Exploration of alternatives to answer need or problem</li> <li>• Identification of a solution</li> <li>• Development of a viable prototype/model</li> </ul>		<ul style="list-style-type: none"> <li>• Exploration of alternatives to answer need or problem</li> <li>• Identification of a solution</li> <li>• Development of a viable prototype/model that is innovative</li> </ul>
<b>Execution: data collection, analysis and interpretation</b>		<ul style="list-style-type: none"> <li>• Prototype demonstrates intended design</li> </ul>		<ul style="list-style-type: none"> <li>• Prototype demonstrates intended design</li> <li>• Prototype demonstrates engineering skill and completeness</li> </ul>		<ul style="list-style-type: none"> <li>• Prototype demonstrates intended design</li> <li>• Prototype has been tested in multiple conditions/trials</li> <li>• Prototype demonstrates engineering skill and completeness</li> </ul>
<b>Creativity</b>		<ul style="list-style-type: none"> <li>• Project demonstrates some creativity in one or more of the above criteria</li> </ul>		<ul style="list-style-type: none"> <li>• Project demonstrates significant creativity in some of the above criteria</li> </ul>		<ul style="list-style-type: none"> <li>• Project demonstrates significant creativity in all of the above criteria</li> </ul>
<b>Poster</b>		<ul style="list-style-type: none"> <li>• Adequate information about project provided</li> <li>• Use of graphics and legends</li> </ul>		<ul style="list-style-type: none"> <li>• Logical organization of material</li> <li>• Adequate use of graphics and legends</li> </ul>		<ul style="list-style-type: none"> <li>• Logical organization of material</li> <li>• Adept use of graphics and legends that convey information with clarity</li> <li>• Supporting documentation displayed</li> </ul>
<b>Interview</b>		<ul style="list-style-type: none"> <li>• Thoughtful responses to questions</li> <li>• Displays good understanding of basic science relevant to project</li> <li>• Average degree of independence in conducting project</li> </ul> <p>For team projects:</p> <ul style="list-style-type: none"> <li>• Contributions to project and understanding of project are uneven among members</li> </ul>		<ul style="list-style-type: none"> <li>• Clear, concise, thoughtful responses to questions</li> <li>• Displays good understanding of basic science relevant to project</li> <li>• Displays keen understanding of interpretation and, limitations of results and conclusions</li> <li>• Moderately high degree of independence in conducting project</li> </ul> <p>For team projects:</p> <ul style="list-style-type: none"> <li>• Every team member has equal contributions and understanding of project</li> </ul>		<ul style="list-style-type: none"> <li>• Clear, concise, thoughtful responses to questions</li> <li>• Displays good understanding of basic science relevant to project</li> <li>• Displays keen understanding of interpretation and, limitations of results and conclusions</li> <li>• High degree of independence in conducting project</li> <li>• Recognition of potential impact in science, society and/or economics</li> <li>• Quality of ideas for further research</li> </ul> <p>For team projects:</p> <ul style="list-style-type: none"> <li>• Every team member has equal contributions and understanding of project</li> <li>• Amount of effort put into the project is commensurate with number of team members</li> </ul>