

Title of Design \_\_\_\_\_

Name of evaluator (please print) \_\_\_\_\_

Circle one: Teacher or External Evaluator

Circle one: Written or Oral Defense

Holistic evaluation (circle one): Outstanding Good Competent Needs Revision

Signature \_\_\_\_\_

Date \_\_\_\_\_

06/14

Performance Indicator	Outstanding	Good	Competent	Needs Revision
<b>Contextualize the Design Problem</b>	--Engineering/design problem is clearly defined and explained in terms of the human needs that are to be solved or fulfilled. --Specific design constraints are clearly explained. --Specific criteria for success are clearly explained. --Background research on the project's content and context has been thoroughly conducted using relevant and credible resources.	--Engineering/design problem is defined and explained in terms of the human needs that are to be solved or fulfilled. --Specific design constraints are explained. --Specific criteria for success are explained. --Background research on the project's content and/or context has been conducted using relevant and credible resources.	--Engineering/design problem is defined but only partially explained in terms of the human needs that are to be solved or fulfilled. --Specific design constraints are mentioned but not fully explained. --Some criteria for success are explained but may not be specific. --Background research on the project's content and/or context has been conducted but uses few relevant and credible resources.	--Engineering/design problem is defined but not explained in terms of the human needs that are to be solved or fulfilled. --No or few specific design constraints are mentioned or explained. --Few criteria for success are explained. --Little or no background research on the project's content and/or context has been conducted.
<b>Critique the Design Process</b>	--Thoroughly describes the design phase including thoughtful evaluation of models ( <i>e.g.</i> , diagrams, replicas, analogies, computer simulations, mathematical formulas) and design priorities. --Thoroughly justifies how the selected prototype will best	--Describes the design phase including evaluation of models ( <i>e.g.</i> , diagrams, replicas, analogies, computer simulations, mathematical formulas) and design priorities. --Justifies how the selected prototype will best satisfy	--Describes but does not sufficiently evaluate the design phase including models ( <i>e.g.</i> , diagrams, replicas, analogies, computer simulations, mathematical formulas) and design priorities. --Only partially justifies how	--Describes but does not evaluate the design phase including models ( <i>e.g.</i> , diagrams, replicas, analogies, computer simulations, mathematical formulas) or design priorities. --Does not justify how the selected prototype best

	<p>satisfy all criteria for success.</p> <ul style="list-style-type: none"> <li>--Thoroughly justifies why all alternative prototypes were rejected.</li> <li>--Thoroughly identifies and describes all relevant variables including any appropriate controls.</li> </ul>	<p>some of the criteria for success.</p> <ul style="list-style-type: none"> <li>--Justifies why some of the alternative prototypes were rejected.</li> <li>--Identifies and describes most relevant variables including any appropriate controls.</li> </ul>	<p>the selected prototype best satisfies some of the criteria for success.</p> <ul style="list-style-type: none"> <li>--Only partially justifies why some of the alternative prototypes were rejected.</li> <li>--Identifies and describes some relevant variables including any appropriate controls.</li> </ul>	<p>satisfies some of the criteria for success.</p> <ul style="list-style-type: none"> <li>--Does not justify why some of the alternative prototypes were rejected.</li> <li>--Identifies but does not describe relevant variables including any appropriate controls.</li> </ul>
<p><b>Test the Design Prototype: Collect, Organize &amp; Present Data</b></p>	<ul style="list-style-type: none"> <li>--Collects extensive relevant data in a reliable manner for the purpose of optimizing the design.</li> <li>--Thoroughly represents data appropriately in multiple ways (<i>e.g.</i>, tables, charts, graphs).</li> <li>--Conducts thorough mathematical analysis of the data.</li> </ul>	<ul style="list-style-type: none"> <li>--Collects relevant data in a reliable manner for the purpose of optimizing the design.</li> <li>--Represents data appropriately in multiple ways (<i>e.g.</i>, tables, charts, graphs).</li> <li>--Conducts mathematical analysis of the data.</li> </ul>	<ul style="list-style-type: none"> <li>--Collects sufficient and relevant data for the purpose of optimizing the design.</li> <li>--Represents data in multiple ways (<i>e.g.</i>, tables, charts, graphs).</li> <li>--Conducts analysis of the data.</li> </ul>	<ul style="list-style-type: none"> <li>--Collects insufficient and/or irrelevant data.</li> <li>--Does not represent data appropriately.</li> <li>--Does not analyze the data.</li> </ul>
<p><b>Evaluate the Design (Prototype)</b></p>	<ul style="list-style-type: none"> <li>--Thoughtfully analyzes the extent to which prototype satisfies all criteria for success.</li> <li>--Thoughtfully explains how data were used in optimizing the design through multiple iterations.</li> <li>--Thoughtfully proposes effective and relevant revisions to the design.</li> </ul>	<ul style="list-style-type: none"> <li>--Analyzes the extent to which prototype satisfies some of the criteria for success.</li> <li>--Explains how some of the data were used in optimizing the design through multiple iterations.</li> <li>--Proposes some relevant revisions to the design.</li> </ul>	<ul style="list-style-type: none"> <li>--Describes but does not analyze the extent to which prototype satisfies some of the criteria for success.</li> <li>--Only partially explains how some of the data were used in optimizing the design through multiple iterations.</li> <li>--Proposes few relevant revisions to the design.</li> </ul>	<ul style="list-style-type: none"> <li>--Does not describe or analyze the extent to which prototype satisfies all criteria for success.</li> <li>--Does not explain how the data were used in optimizing the design through multiple iterations.</li> <li>--Does not propose any relevant revisions to the design.</li> </ul>
<p><b>Defense (for oral component only)</b></p>	<ul style="list-style-type: none"> <li>--Thoroughly answers questions relevant to the design and related topics.</li> </ul>	<ul style="list-style-type: none"> <li>--Adequately answers questions relevant to the design and related topics.</li> </ul>	<ul style="list-style-type: none"> <li>--Adequately answers questions relevant to the design.</li> </ul>	<ul style="list-style-type: none"> <li>--Does not adequately answers questions relevant to the design.</li> </ul>