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|  | PLTW Engineering Notebook  PLTW Engineering |

# Decision Matrix Checklist and Rubric

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|  | Decision Matrix Checklist |

| Review Content | Needs Revision | Reviewer Name, Date | Reviewer Comments | Approved |
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| * The items listed at the top of the matrix are the criteria and constraints for the design solution. * All of the measurable requirements that define a successful solution are included as criteria and constraints. * All criteria and constraints are clearly defined. * The items listed on the left side of the matrix are the brainstormed ideas to address the design problem. * All brainstormed ideas are clearly identified and described using narrative and/or sketches. * All ideas are rated for each criteria and constraints using a scale to compare the ideas (or potential solutions) with respect to how well they will meet the criterion. * The column on the right side of the matrix includes the sum of the ratings for all criteria and constraints per proposed design solution. * A key describes the rating scale(s) used. |  |  |  |  |

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|  | Decision Matrix Rubric |

Use the following criteria to assess a decision matrix.

| Criteria | Basic | Proficient | Advanced |
| --- | --- | --- | --- |
| **Assignment of Values** | Each criteria or constraint for each of the listed brainstormed ideas are assigned a number according to the rating scale used, but no attempt is made to explain the reasoning for the rating assignments to the reader. | A method of evaluating each criterion or constraint for each of the brainstormed ideas is used. An attempt to explain the reasoning is made but is unclear to the reader. | A logical, well-explained method of evaluating each criterion or constraint for each of the brainstormed ideas is presented to the reader. |
| **Conclusions Drawn** | A choice from the list of possible solutions is made but is not justified or is not supported by the decision matrix. | Based on the results of the decision matrix evaluation, a choice is made and an attempt to justify the choice is made but does not stand up to technical challenge. | Based on the results of the decision matrix evaluation, a clear choice is made, is supported by the results of the decision matrix, and is expertly defended on a technical basis. |
| **Completeness and Thoroughness** | Documentation in Engineering Notebook reflects design work sporadically. | Documentation in Engineering Notebook is clear and consistently reports design work as it progresses. | Documentation in Engineering Notebook comprehensively reflects all design work. |
| Decision Matrix documentation does not include explanations of, justifications of, nor reflections on important design decisions and work. | Decision Matrix documentation includes adequate explanations of, justifications of, or reflections on major design decisions. | Decision Matrix documentation includes in-depth explanations of, justifications of, or reflections on all design decisions. Includes frequent notations of thoughts and reflections on work that inform the design process. |
|  | A person unfamiliar with the design work can interpret the documentation, as written. | A person unfamiliar with the design can easily interpret the documentation, as written, and understand the progress of the design process and all aspects of the design solution. |

**Comments**: