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| **Project 10.1 Design Challenge Rubric** |

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| Elements | 4 Points | 3 Points | 2 Points | 1 Points | 0 Points | Total |
| Freehand  Sketching | Produces accurate sketches of the required design concepts. Is properly detailed for effective communication. | Produces marginally sufficient freehand sketches of required design concepts. Is partially detailed | Produces marginally sufficient freehand sketches of required design concepts. Is marginally detailed | Produces freehand sketches that are difficult to visualize. Lacks details in sketches. | Produces incomplete sketches. Does not present concept. |  |
| Consideration  of Alternatives | Generates a concept and clearly justifies the choice using the appropriate criteria. | Generates a concept and somewhat justifies the choice using acceptable criteria. | Generates a concept but cannot justify the choice. | Generates a concept but cannot justify the choice. | Generates no concept. |  |
| Design  Requirements | Fully meets design requirements. | Meets most design requirements. | Meets most design requirements, but not well. | Meets some requirements. | Does not meet any requirements. |  |
| Teamwork | Team members worked well together. | Showed good team working skills the majority of the time. | Showed good team working skills the some of the time. | Understands team working skills, but does not apply well. | Did not present any team working skills. |  |
| Parts | All of the parts are drawn and dimensioned correctly. | Most of the parts are drawn and dimensioned correctly. | Some parts are draw or dimensioned incorrectly. | Most of the parts are drawn and dimensioned in correctly. | No parts are correctly drawn or dimensioned. |  |
| Assembly | Model is completely and efficiently constrained. | Model is inefficiently constrained or is missing a few constraints. | Model is inefficiently constrained or is missing many constraints. | Some model features and constraints are missing or improper. | Model is missing most features or constraints. |  |
| Drawing  Dimensions  and  Annotation | Dimensions and annotates properly and clearly. | Supplies most dimensions and annotations.  Locates most dimensions and annotations them properly. | Supplies most dimensions and annotations.  Locates most dimensions, but does not annotate them properly. | Omits many dimensions or annotations. Some mislabeling exists. | Dimensions or annotations have not been added, leaving only software-determined defaults. |  |
| Views | Locates all appropriate views properly and clearly. | Locate most views clearly or properly. | Does not locate all appropriate views clearly or properly. | Omits views needed for clarity. Includes inappropriate views. | Incomplete drawing submitted. |  |