

Design Challenges Rubric

Design				
Topics	4 points	3 points	2 points	1 point
Freehand Sketching	Produces accurate pictorial and sketches of the required design concepts. Is properly detailed for effective communication.	Produces marginally sufficient freehand sketches of required design concepts. Is marginally detailed for effective communication	Produces freehand sketches that are difficult to visualize. Lacks details in sketches.	Produces incomplete sketches. Does not present concept.
Consideration of Alternatives	Generates at least three, viable concepts. Selects most appropriate concept and clearly justifies the choice using the appropriate criteria.	Generates three concepts. Selects an appropriate concept and is somewhat able to justify the choice using marginally acceptable criteria.	Generates three concepts. Selects one using inadequate criteria.	Generates one concept.
Design Requirements	Fully meets design requirements.	Meets most design requirements and supports the design function.	Meets some requirements but not enough to support the design function.	Does not meet any requirements.
Teamwork	Both team members worked well together and settled differences the correct way.	Showed good team working skills the majority of the time.	Showed good team working skills part of the time.	Did not present any team working skills.

Drawings and Assembly				
Topics	4 points	3 points	2 points	1 point
Model Generation	Presents, locates, and sizes all model features properly. Model is completely and efficiently constrained.	Presents, locates, and sizes most model features properly. Model is inefficiently constrained or missing a few constraints.	Some model features are missing or improper. Model is missing several constraints.	Model is missing most features or constraints.
Assembly	Verifies the assembly thoroughly and clearly documents and presents it. Interprets verification results.	Completes required verification as specified by the instructor. Presents clearly, but results are not interpreted well.	Presents incomplete and/or poor verification.	Submits no verification of assembly.
Part	Verifies the part thoroughly; clearly documents and presents it. Interprets verification results.	Completes required verification as specified by the instructor. Presents clearly, but results are not interpreted well.	Presents incomplete and/or poor verification.	Submits no verification of part.
Dimensions and Annotation	Dimensions and annotates properly and clearly.	Supplies most dimensions and annotations. Locates most of them properly.	Omits many dimensions or annotations. Some mislabeling.	Dimensions or annotations have not been added, leaving only software determined defaults.
Views	Locates all appropriate views properly and clearly.	Does not locate all appropriate views clearly or properly.	Omits views needed for clarity. Includes inappropriate views.	Incomplete drawing submitted.

Teamwork and Communication

Topics	4 points	3 points	2 points	1 point
Decision Matrix	All categories and values are explained to detail why an idea would fit into that category	All categories are given explanations but they are not detailed or thoroughly explained	Categories are explained with some varying details to justify why idea might fit into a given category.	Categories are listed with a single explanation for all categories
Self-Evaluations	Evaluations are all present and complete with thoughtful comments in proper grammatical format	Evaluations are all present and mostly complete with comments that have some grammatical errors	Some evaluations are missing and are mostly complete, while some of the comments are missing or have errors	Many evaluations are missing, and the ones present are incomplete with errors
Teammate Evaluations	Evaluations are all present and complete with thoughtful comments in proper grammatical format	Evaluations are all present and mostly complete with comments that have some grammatical errors	Some evaluations are missing and are mostly complete, while some of the comments are missing or have errors	Many evaluations are missing, and the ones present are incomplete with errors

Presentation

Topics	4 points	3 points	2 points	1 point
Content	Accurate and complete	Accurate and adequate	Inaccurate and inadequate	Information does not address topic
Delivery	Effective, relaxed, good body language, voice, and eye contact	Adequate and mostly relaxed, good body language, voice, and eye contact	Does not stay on topic, appears tense, and body language, voice, and eye contact are inappropriate	Omits key information, appears tense, and body language, voice, and eye contact are inappropriate
Organization	Logical sequence and engaging	Mostly provides a logical sequence, but a few flaws exist	Somewhat logical but confusing at some points	Disorganized, unclear, or confusing
Preparation	Detailed	Adequate	Some concerns	Shows a lack of preparation
Visual Aids	Excellent, easy to read, and relevant	Adequate, easy to read, and relevant	Somewhat effective with errors in spelling or vocabulary	Lacks effectiveness with errors in spelling or vocabulary; some required elements not present.