

Generating Alternative Solutions

Design Assignment #3 (Individual, 4%)

The purpose of this assignment is to present a technical description of one feasible (meets all constraints), unique solution to the Bean Bag Mover Design Problem. This is an individual assignment and each team member must describe a bean bag mover that is substantially and conceptually different from all the others within your team. For example, two launching options with different types of launchers would be considered different whereas two options for the same type of launcher with different materials would not be considered different. One of the important requirements of the report will be to explain how your proposed solution performs on the all of the OBJECTIVES that your team has agreed upon.

1. Use the Design Rubric as a Title Page. Be sure to write your name in the space provided. Also include your team name or number.
2. Write a Technical Description for your bean bag solution. Follow the "Technical Description" format presented in your design class (the notes are all posted on Blackboard). Make sure that you are writing about a specific bean bag mover that you have envisioned, not about a typical type of bean bag mover. Your design should specify approximate dimensions, methods of operation, and specific materials. You will be able to change the design specifications in subsequent steps of the design process.

Your technical description must include at least one clear, labeled drawing of your bean bag mover solution.

3. Explain how well your design performs on EACH of the objectives of the problem as identified by your team. Your team must all address the same objectives. For every objective:
 - State it clearly (form: "the more/less....the better)
 - State how it will be MEASURED
 - State which features/elements address it
 - Describe/estimate how well your design performs on it (WITH VALUES)

Again your discussion should be supported by evidence. This information could be presented in a well-formatted table, or list, or series of short paragraphs.

This assignment is due at the start of your next design class. Make sure that you keep a copy of the assignment; you will need it in class.

Alternative Solutions - Design Assignment #3 Marking Rubric

Name:				MARK: /28
Team #/name:				
	1 <i>poor</i>	2 <i>marginal</i>	3 <i>average</i>	4 <i>excellent</i>
Technical Description (design)	Design is not unique.	Design is appropriate and different from others.	Design is at conceptual level. Differences compared to other concepts are described.	Design is at conceptual level. Differences compared to other concepts are substantial and clearly described.
Technical Description (overall)	Many missing parts. OR Overall assembly vague.	Overall description is understandable and mostly complete.	Most parts are presented in a logical order with clear orientation relative to one another. Overall assembly is clear.	All parts are presented in a logical order with clear orientation relative to one another. Overall assembly is clear and easy to understand.
Technical Description (style)	Many errors. Drawings not referenced in text.	Many errors but writing quality is adequate. Drawings are mentioned in text.	Description is well-written (few errors); the structure is appropriate. Drawings are accurately referenced.	Description is well-written (no errors); the structure is appropriate. Transitions are smooth, drawings are accurately referenced.
Technical Description (drawing)	Drawing is unclear or poorly executed.	Drawings are informative and adequately clear.	Drawings match the written description. They are informative, comprehensive & neat.	Drawings completely match the written description. They are informative, comprehensive, neat, & perfectly organized.
Objectives (Stated)	Fewer than six objectives listed. Many metrics missing.	At least six objectives are stated with metrics.	At least six objectives are stated, most are important and clearly stated with good metrics.	All (six or more) objectives are important and clearly stated with good metrics.
Objectives (performance)	Many performance descriptions missing.	Most performance descriptions are stated and supported.	For most objectives description of performance is clearly explained and supported with evidence and analysis.	For all objectives description of performance is clearly explained and supported with evidence and analysis.
Referencing and Citing	Many references are missing.	Most sources are cited, some in poor form.	All sources are cited within the text. All references are listed.	Referencing is complete. All sources are cited within the text. All references are listed in proper form.