

530.215 MECHANICS-BASED DESIGN

Design Problem # _____

1. General Statement of Problem

2. Intended market:

3. Critical ethical issues:

4. Critical legal issues:

Date: _____

Name: _____

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5. Design constraints (from the issues discussed above):

6. Engineering design criteria:

(i)

(ii)

(iii)

(iv)

(v)

(vi)

(vii)

(viii)

(ix)

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7. List of concepts that you considered before settling on your final design:

8. Drawing of your design (including dimensions, and a key or labels):

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9. Stress analysis of your final design, identifying critical points where failure is likely to occur (these should be indicated on the drawing as well).

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10. List of parts, components or materials needed to make your design. Define the source of those items (e.g., McMaster-Carr). This should include costs:

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11. Discuss the overall cost of your design, and how this relates to your intended market.

12. Demonstrate that your design meets your engineering design criteria. State your final factor of safety.