**PROJECT DESCRIPTION**

Design a stool to be made from single-wall corrugated cardboard.

**FUNCTIONAL + AESTHETIC REQUIREMENTS**

The stool should be approximately: 18 x 18 x 18” inches.

You will be working at 1/5 (3.6 x 3.6 x 3.6”) and 1/3 (6 x 6 x 6”) scale.

You may use up to 3 separate pieces of single-wall corrugated cardboard.

However, designs that use only one piece should be explored!

All pieces must fit within a larger 48 x 96” sheet (at 100% scale).

No commercial fasteners (nails, screws, etc.) or glue may be used.

Tabs and slots should be used to connect sections within the design.

The structure should be easy to assemble and disassemble for carrying, travel and storage.

The stool should be stable enough to carry an adult weighting up to 200 pounds.

This includes both lateral load (the vertical compression caused by the weight of a seated person) and torque load (the torsion force that may result from the live movement of a seated person).

The final form must be aesthetically pleasing.

The upper surface of the stool should be visually identifiable as a seating surface.

The stool should communicate simplicity and apply to a minimal seating concept.

Integrity of design, structure and material is essential.

**DESIGN PROCESS + TIMELINE**

**Critique 1 > FRI - 5/20**

Design and builds at least three 1/5 models of various design concepts (able to hold 40 pounds)

For each 1/5 model you will need a 9.6 x 19.2” sheet of 2-dot chipboard (okay to round to 10 x 20”).

The 2-dot chipboard is available at the UW bookstore ($2.50 for a 24 x 36” sheet).

In this critique, we will identify the best design variations and suggest possible improvements.

**Critique 2 > FRI - 5/27**

Design and build at least three 1/3 scale models of the stool (able to hold 67 pounds)

For each 1/3 model you will need a 16 x 32” sheet of E-flute corrugated cardboard.

The E-flute cardboard is available at the UW bookstore ($3 for a 24 x 36” sheet).

In this critique, we will continue to identify areas of success — and areas that need improvement.

**Critique 3 > FRI - 6/03**

Refine your final stool design and prepare a detailed documentation booklet.

**Detailed specifications on the format of this booklet will be given in lecture on Wednesday, 5.25**

Generally speaking, the documentation booklet should contain:

- Photographs + sketches of the final design.
- A detailed pattern/technical drawing (with measurements) of the unfolded stool.
- A written assessment of the merits and flaws of the final design.

**EVALUATION CRITERIA**

- Does the design withstand the required load? (2 points)
- Are the aesthetics of the stool pleasing? (2 points)
- Is the design appropriate for the cardboard material? (2 points)
- Is the stool well crafted? (2 points)
- Is the documentation of the stool clear and well crafted? (2 points)

**LEARNING OBJECTIVES**

This project prepares students to approach complex design problems.

During this project, students must:

- Research and collect the information necessary to solve a problem (for example, information on human dimensions, existing seating structures, folding or fastening techniques, etc.)
- Work within fixed constraints to achieve a design objective — that is, create a form for a specific use by using the properties of a specific material and a specific manufacturing process.
- Break a large project down into smaller steps, working through a design process with fixed timing.
- Brainstorm and analyze a design problem with others to develop innovative ideas.

*This project is a classic design exercise developed and assigned at numerous design schools in the U.S. and Europe. This description has been adapted from *Basic Visual Principles for Artists, Architects and Designers*, 1992 by Wallischlaeger, et al.*
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<thead>
<tr>
<th>Stool withstands the required load (2)</th>
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<tr>
<td>Aesthetics of the stool are pleasing (2)</td>
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<tr>
<td>Design is appropriate for cardboard material (2)</td>
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<tr>
<td>Stool is well-crafted (2)</td>
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<tr>
<td>Documentation of the stool is clear and well-crafted (2)</td>
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**Bonus: full size stool withstands load (+.5)**

**Bonus: full size stool is aesthetically pleasing (+.5)**

**PROJECT #3 TOTAL**

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