

ME 1030-02

Task 12

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Cardboard Boat Report



This task was designed to teach students, there will be an explanation of the task, designs and plans for the boat, the timeline of building the boat, photographs of the fully built and painted boat, different problems encountered and solved. This project was meant to teach teamwork built of anyone, and building the boat according to a plan, and under a time deadline. Through the different design restrictions, the teams were forced to think creatively, and try to think of a simple enough design to make in a week.

Project Plan

1. Tuesday, October 9- Brought in Cardboard, and went over sketches and designs, and start the basic construction. (2.5 hours)
2. Thursday, October 11- Continued working on building the first layer of the boat, by caulking and taping the edges. (3 hours)
3. Saturday, October 13- Assemble the next two layers of the boat, apply layers of glue, caulk, and the first coat of primer. (8 hours)
4. Sunday, October 14- Added 2 more coats of primer and added coats of spray-paint to the outside of the boat. (4 hours)
5. Monday, October 15- Coated the inside with red spray paint, and applied duct tape over the outside layer of primer around the edges. (2.5 hours)
6. Tuesday, October 16- Boat was done and ready for the test in the evening.

Bill of Materials

Rob Foshee:

- Liquid Nails (2) - \$12.00
- Gorilla Glue - \$9.00
- Silicone Sealant (2) - \$11.60
- Duct tape - \$3.00

Dakota Hardin:

- Black Spray Paint (3) - \$3.00
- Red Spray Paint (2) - \$9.00
- Scotch Bundling Tape (2) - \$8.00
- Silicone Sealant (2) - 11.60

Adam Donovan:

- Latex Based Primer (white) - \$14.00
- Spray Adhesive - \$10.00

Nick Smith:

- Red Spray Paint - \$5.00
- Duct Tape - \$3.00

Rough Estimate Total: \$99.2

Problems Encountered

1. Using materials and glues that took a long time to set and dry. (e.g. glue and caulking)
 - a. We had to use clamps and duct tape to hold the boat tight and wait before being able to work with the walls of the boat. This was to keep the glue and caulking in place while we waited for them to dry.
2. Working and planning under the time constraint of a week.
 - a. We had to trade off a complicated design for time to reinforce and structure the boat. We went for a simpler design that we knew we could build in paint and that we thought would carry people in the group within the area of its use.





In this project I learned how to build a boat in the constraint time of one week. Not much of a big problem, but learning the decision making situations from the other team members, and being a team leader to determine if they have a viable solution or not. We also learned how to follow a guideline set which could be applied in the engineering field where some materials would be mandatory in order to keep in price or not conflict with other objects.