Department of Physics and Astronomy

Thirteenth Annual Bridge Building Contest

Thursday, April 27, 2006, at 4:00 p.m.*

Greene 104-A

Refreshments will be served

First prize: $20.00
Second Prize: $10.00

Open to all SUNY Geneseo students

Dr. Pogo, referee (pogo@geneseo.edu)

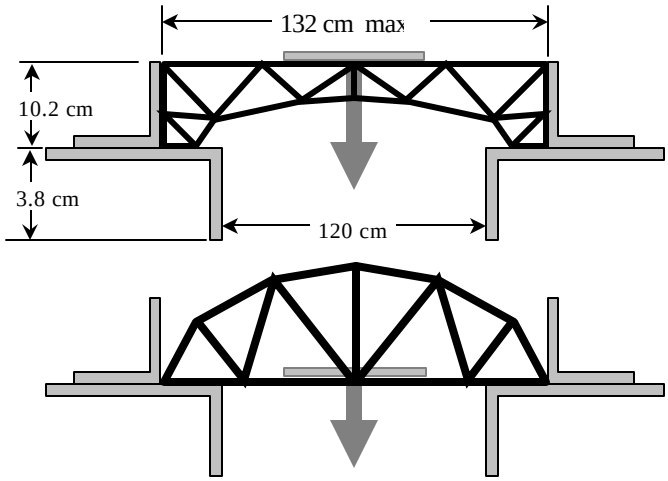
* Contestant must arrive at 3:45pm or earlier to have their bridges massed.

Rules and other fine print:

1. Bridges shall be built using wood and Elmer's glue-all. Contestants must provide their own glue. The wood will be provided by Dr. Pogo. Contestants may not make any substitutions of material. The mass of each bridge may not exceed 220g. Various types of wood are provided:

   20 balsa sticks: $^1/_8$" square, 36" long
   20 balsa sticks: $^3/_{16}$" square, 36" long
   30 pine sticks, $^3/_8$" × $^1/_{16}$", 4" long
   8 balsa sticks: ¼" square, 36" long
   1 balsa sheet: 2" × $^1/_{16}$" × 18" long

2. The bridge will be required to span a gap that is 120 cm across. The bridge length may not exceed 132 cm. The width of the roadbed must be between 9 and 15 cm, and must accommodate the testing device (including a hole of sufficient size for the steel ring) discussed below. It is the responsibility of each contestant to ensure that this device can be quickly placed onto the bridge.



3. Bridges must demonstrate stability before the testing device is attached.
4. Bridges shall be tested by hanging weight on them until they are destroyed. The padded testing device shall be used for all testing. The device will be placed on the bridge roadbed with the steel ring facing down, so that it extends *through* the roadbed. Mass will be added to the ring (in 2 kg increments, but starting at 10 kg) until the bridge collapses. The testing device has a mass of about 500g, and can be examined during Dr. Pogo's office hours.
5. A $10 deposit is required to obtain materials. The deposit will be 100% refunded at the competition if the bridge is found to meet the above rules.
6. Bridges will be ranked by the ratio of supported weight to bridge weight: $\text{score} = \dfrac{\text{mass}_{\text{supported}}}{\text{mass}_{\text{bridge}}}$.
7. Rules subject to interpretation by Dr. Pogo.

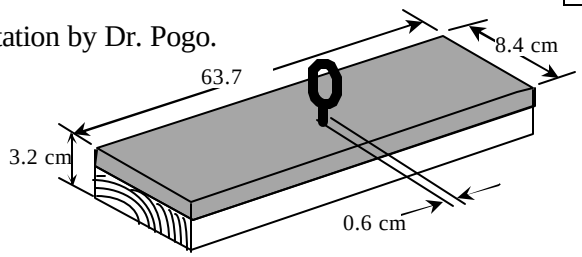


Fig. 2. Testing device. The steel ring has a 2.5 cm diameter.