

Thirtieth Annual Bridge Building Contest

Thursday, December 7, 2023, at 4:00 p.m.*

Newton 204

Refreshments will be served

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 325 g. Various types of wood are provided:

20 balsa sticks: $\frac{1}{8}$ " square, 36" long

15 balsa sticks: $\frac{3}{16}$ " square, 36" long

20 birch sticks, $\frac{3}{8}$ " \times $\frac{1}{16}$ ", 4" long

8 balsa sticks: $\frac{1}{4}$ " square, 36" long

1 balsa sheet: 2" \times $\frac{3}{32}$ " \times 18" long

2. The bridge will be required to span a gap that is 120.0 to 120.5 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. The testing device may be no higher than 2 cm above the support surface indicated.
4. Bridges shall be tested by pulling downwards on the padded testing device until each bridge is destroyed.

The device will be placed on the bridge roadbed with the steel ring facing down, so that it extends *through* the roadbed. Tension will be applied to the cable by a motor in gradually increasing amounts until the bridge collapses. The testing device can be examined during Dr. Pogo's office hours. At no time during testing may the bridge contact any part of the testing device other than the padding itself.

5. For students not enrolled in PHYS 313, a \$50 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:

$$\text{score} = \frac{\text{mass}_{\text{supported}}}{\text{mass}_{\text{bridge}}}$$

7. Rules are subject to interpretation by Dr. Pogo.

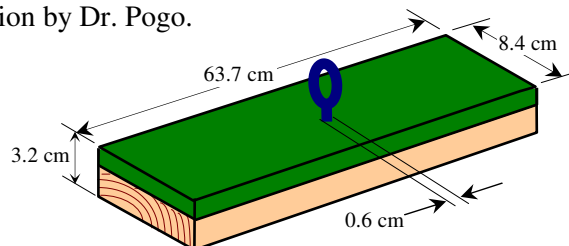
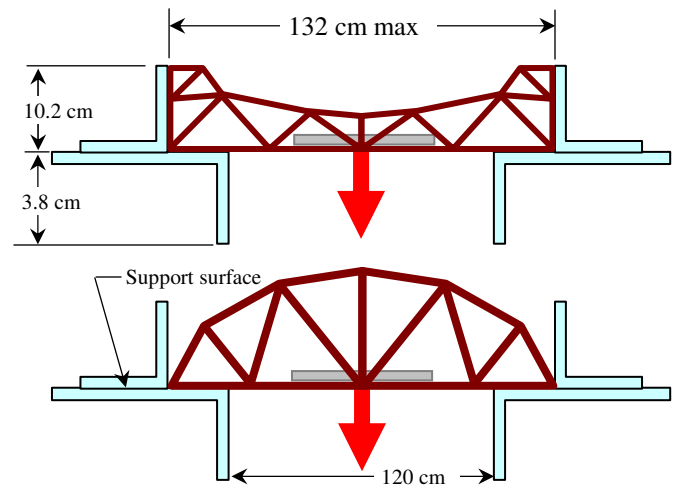


Fig. 2. Testing device. The steel ring has a 2.5 cm diameter.