

## **EVENT 2: The Cantilever**

(Revised 10/17/2021)

**OBJECTIVE:** Design and build the longest cantilever segment using only spaghetti and hot glue

### **RULES:**

- a. The team will design and build a cantilever structure and bring their structure built or partially built to the competition.
- b. The Cantilever structure is to be constructed from one box (500 grams) of commercially available spaghetti made only from semolina or flour and water with a diameter of not greater than 3.0 millimeters. No other form of pasta, such as fettuccine or bucatini (tubular spaghetti), is permitted
- c. White hot glue sticks that drie clear or semi-transparent may be used to join the spaghetti strands together.
- d. Glue may only be used to attach strands of spaghetti together, i.e., coating the spaghetti strands with glue with the sole purpose of increasing the strength of the strands is not permitted. Additionally, no other material may be used to coat the strands of spaghetti.
- e. Not more than four strands of spaghetti may touch one another at a time in a parallel arrangement.
- f. The spaghetti strands may be cut.
- g. The cantilever structure must be free standing: no part of the cantilever structure may be attached to any surface.
- h. The cantilever structure must have three distinct parts: The base, the counter-weight and the cantilever segment.

### **COMPETITION AND SCORING:**

- a. The team will have 5 minutes to assemble their cantilever.
- b. Once assembled, the team will notify the judge(s) that their entry is ready to be measured.
- c. The Cantilever will be measured on a tile (or similar surface) floor.
- d. The tip (free end) of the cantilever segment may not touch the floor.
- e. The cantilever structure must stand free for 15 seconds to qualify.
- f. After 15 seconds, the judges(s) will measure the horizontal component of the cantilever segment from the end of the free end to that part of the cantilever that extends past the base (i.e., any part of the cantilever segment directly above any part of the base will not be included in the measurement).
- g. The counter balance segment will not be considered part of the cantilever segment.
- h. The longest cantilever segment wins.
- i. In the event of a tie, the cantilever with the tallestest base and longest cantilever segment will win.

$$\text{SCORE} = \frac{(\text{Your Teams Cantilever length})}{(\text{Winning Cantilever length})} \times 100$$

Testing procedures & scoring may need to be modified if the Olympics is held virtually.

*Updates to the rules and Forum discussion / questions with answers are available by going to the NJAAPT website: [njaapt.wildapricot.org](http://njaapt.wildapricot.org) (top menu, "Events" and "Forum"). It is the team's responsibility to periodically check in or inquire about changes and clarifications to the rules.*