

# ENGINEERING 101

## PROJECT #2

### EDIBLE CAR COMPETITION

**Objective:** Design and build a car that is entirely edible. Cars will compete with one another in a league setting (every car will compete against every other car) to identify the champion. In each competition the winner will get three points while the loser gets zero points. In the case of a tie, each car will get one point. The competition consists of a race along a track (with a downward angle) and the objective is to reach the end line before the other car.

#### Rules & Constraints:

##### 1. Edible Car's Specifications:

- a. The car **MUST** be built and must have moving parts. **NO** whole oranges, apples, cucumbers, or any other whole foods that may roll qualify as cars. The judges will disqualify any teams if their car fails to meet these requirements.
- b. Vehicles must have at least four separate wheels and two separate axles.
- c. Vehicles must have a feature that is designated as the "body" that remains intact in the event that all wheels fall off.
- d. All parts of the car, including wheels and axels, must be edible.

##### 2. Sanitary Instructions:

- a. Since you will be eating your car at the end of the race, you **MUST** make sure that you follow all necessary sanitary precautions. You **MUST** thoroughly wash your hands and wear disposable gloves when handling the car during the race.
- b. You **MUST** thoroughly wash your hands and wear disposable gloves when you are building the car.
- c. Judges **CAN & WILL** disqualify any team that does not follow proper sanitary precautions.
- d. **NO** part of the car may be cooked, heated, blended or otherwise processed prior to eating.
- e. For safety reasons, no perishable foods or food requiring cooking to kill bacteria prior to eating will be allowed. (i.e. meat products of any kind, cheese, etc)
- f. If any parts or the entire car (after the competition) is deemed to be unsanitary, your team will not be allowed to eat the car (see the consequences in the scoring section).

### 3. Scoring Criteria:

- a. Each team will compete against other 11 teams, at least once.
- b. Scores are given as below:
  - i. Winner = 3 points
  - ii. Loser = 0 points
  - iii. Tie = 1 point each team
- c. Cars will be weighed before the competition, and at the end of the competition.
- d. At the end of the competition your car will be weighed after you have given a chance to eat it.
- e. The team's score will be determined as follows:

$$Final\ Score = \frac{W_i - W_f}{W_i} (League\ Score)$$

Where

$W_i$  = Initial Weight of the car

$W_f$  = Final (remaining) Weight of the car after eating it