ENGLISH 1302: Advanced College Rhetoric: Writing in Engineering
Texas Tech University

Mousetrap Car Design Competition

The following design competition will guide our projects—both individual and collaborative—throughout this semester. The winning mousetrap car design will earn an extra half a letter grade (5%) on the Final Design Report.

Goal

Using the materials listed below, design and build a car that both is as inexpensive as possible and completes the course as fast as possible.

The Rules

The car must travel the length of a 3x1m course (from one end to the next: 3m) in as short as time as possible. Materials are constrained to

- commercial mouse traps,
- cardboard or paper,
- any kind of tape,
- string of any kind,
- straws,
- pencils or wood dowel rods,
- any kind of glue, and
- one other material of your choosing (NOTE: This material **cannot** be a motor of any type).

Results will be scored using the following formula:

$$Score = Time\ (s) \times Cost\ (\$)$$

Time will be measured by video recording. Cost will be calculated off of the Bill of Materials (BoM). A BoM lists every part, where it was obtained from, and how much it cost. It is important to note: the BoM is not *your* cost to build the mousetrap. It is the cost someone else would incur from attempting to build an identical mousetrap. If you have parts and materials already at hand or they are donated to you, then you must find where someone else could obtain them and at what cost and include that information in your BoM, the total cost of which is included in the score. This total cost includes the cost of tools used (e.g., drills, glue guns, and so forth).

If any part of the car leaves the course before completely crossing the finish line then the score is doubled. That is, if your car veers to the left or right and crosses the course's boundaries, or if a part of the car flies off and leaves the course, the score will be doubled.

Lowest score wins.

Our Process

We will use this ill-defined problem to guide our projects in this course:

- Project 2: An individually written Project Description
- Project 3: An Elevator Pitch

From here, we will create collaborative teams to work on creating a proposal, researching benchmarks (what others have done), submitting progress reports, and a writing a final design report:

- Project 4: A collaboratively written Proposal
- Project 5: An individually written Literature Review
- Project 6: Formal Progress Reports (1 from each group member)
- Project 7: Informal Progress Reports (each group member)
- Project 8: Final Collaborative Design Report (written collaboratively)
- Project 9: Individual Memo on Collaboration and Final Design Report