ASME Battlebots

January 22, 2015
ASME Battlebots

- Design, analyze, fabricate, test and compete combat robots
  - SolidWorks
  - Focus on high strength structures and designs
  - Use of small teams to maximize project experience for each member

- Concepts Utilized:
  - Statics, Dynamics, Finite Element Analysis, Electrical Engineering, Mechanical Design principles

- Weight Classes
  - Beetleweight (3lb)
  - Hobbyweight (15lb)
  - Lightweight (60lb)
Student Education

- Student education
  - Mechanical systems and product design
  - CAD Project
  - Machining classes
    - Safe and effective use of student machine shop
  - Hockeybot Project

- Tech Camp 2014
  - Mentorship
  - Hands-on experience for high school students
Results & Goals

❖ Last year’s results
  ❖ Competed 4 beetleweights, 2 hobbyweights, and 1 lightweight robots at the USATL STEM Tech Olympiad in Miami, FL
  ❖ Semifinalist in hobbyweight division of the STEM Tech Olympiad
  ❖ Internal club competition and showcase at the Boelter Society Celebration

❖ This year’s goals
  ❖ Build off last year’s experience to optimize armor design and component selection in beetleweight and lightweight robots
  ❖ Redesign and compete a lightweight bot at Robogames 2015
Needs and Requests

- **Raw materials**
  - 7075/2024/6061 Aluminum, Tool Steel/Steel, Titanium, UHMW, Delrin
  - Dremel, reciprocating saw, Hand taps

- **Service donation**
  - CNC, Waterjet, Heat treating, Welding