



**THE OHIO STATE UNIVERSITY**

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COLLEGE OF ENGINEERING

**GIFTS - First Year Engineering collaborations with traditional engineering departments to introduce students to foundational concepts through hands-on laboratory exercises**

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# Purpose of the GIFT

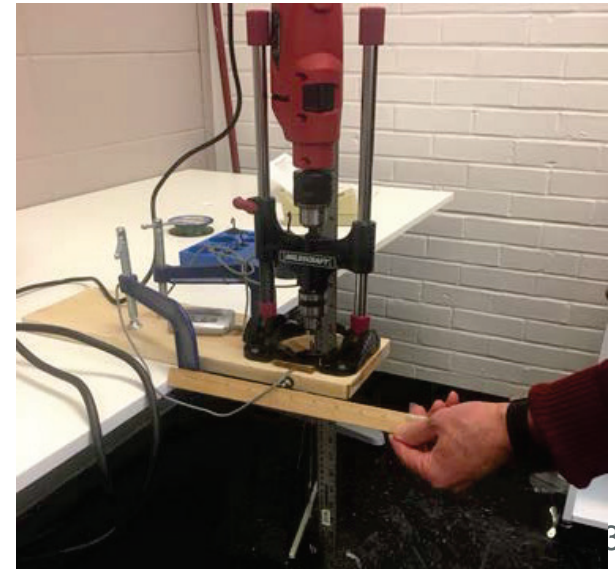
- Exposing students to different engineering disciplines.
  - Material Science with the creation of the spring from polymer 6,6 (nylon fishing line) by rotational force
  - Biomedical through heat treatment to create artificial muscle
- Collaboration with traditional engineering departments
- Create a new hands-on labs



# Required Materials

In this example, the materials required were as follows:

- I. Drill
- II. Drill Stand
- III. Polymer 6,6 (Nylon fishing line)
- IV. Heat Gun
- V. Thermometer
- VI. Meter Stick
- VII. Weights





# Implementation Guidelines

## General:

- Ample time to collaborate with the department of interest in the development as well as testing/piloting of labs.

## Specific:

- Students had to exercise caution with the use of the heat gun
  - Move heat gun along spring at 2in or more away when creating the artificial muscle.



## Future Work

- We are encouraged to continue collaborating with traditional engineering departments to create more hand-on labs
- Create a robust framework to assess direct impact of hands-on labs in career choice,
- feed into other major selection research being done in the department



Thank You!

QUESTIONS??