

Robotic Hand Workshop Speaker Notes:

Before:

- Make sure materials are set up
- Add picture and info to the slides
- Watch this video if you have time to familiarize with the hand anatomy and overview
- <https://www.youtube.com/watch?v=hB6xXXxcPKg> (first 7 minutes are very helpful)

Slide 1:

- Just a quick intro about the activity, no need to go too deep into it bc slides will come up with more info.

Slides 2 and 3:

- Introduce ourselves
- Name, pronouns, major and grade
- Feel free to throw in anything else interesting or fun to make the girls feel like they can connect with us.

What's Biomedical Engineering?

Slides 4 and 5:

- Slide 5 gives a quick intro into what biomedical engineering is
- Talk about some cool classes we take and the different concentrations
- Biomechanics, biomaterials and tissue engineering, computational & systems biology track and systems, imaging & instrumentation Track

UCONN Engineering

Slide 6:

- List of majors at uconn
- Briefly talk about school of engineering and maybe some classes like engineering 1166 or some other engineering courses and opportunities

Robotic Hand Workshop/Experiment

Slide 7:

- Some basic facts to know:
 - There is no muscles in our fingers, however we have ligaments, tendons and bones
 - The tendons are responsible for contracting our fingers and our muscles in our forearms and hands help move the tendons
- Our thumbs are special due to the fact that they are opposable and their strength

- Brief experiment where we tape the thumb down and try to pick up stuff
- After just talking about hands you can talk about how we need to combine this information with our mechanical engineering skills when creating prosthetics.

Slides 8 and 9:

- Video of how we are making the robotic hand
- I recommend that you demo building the hand alongside as everyone makes theirs.

Slide 10:

- Go through the reflection and discussion questions
- Answer any questions about our experience at UCONN
- Thank the girls and get feedback