

# Engineering Workshops

Center for Engineering Education and Outreach



## Center for Engineering Education and Outreach - CEEO

The Center for Engineering Education and Outreach is a lab in the School of Engineering at Tufts University. The members of the CEEO are dedicated toward improving engineering education in the classroom; from Kindergarten to college. We have a research program aimed at understanding how kids learn engineering. This research then informs our development of various educational tools.

This semester we are hosting workshops this semester to both introduce children to engineering and further develop engineering concepts to those with previous exposure. We are offering both After School and Saturday Workshops for students from Kindergarten through Eighth Grade. Some workshops use Robotic Materials such as LEGO WeDo 2.0 and LEGO Mindstorms EV3. Some use recycled and craft materials, and some offer a combination of both. If you are interested, please sign up soon because our workshops tend to fill up quickly.

**Workshops are located at 200 Boston Ave Suite G-810**

### AFTER SCHOOL WORKSHOPS

Wednesdays: 1st-3rd Grade

Thursdays: 3rd - 6th Grade

### SATURDAY WORKSHOPS

10/8: K - 2nd Grade

10/15: 6th-8th Grade

10/22: 3rd - 5th Grade

11/5, 11/12, 11/19:  
K - 2nd Grade

11/5, 11/12, 11/19:  
3rd - 5th Grade

# After School Workshops

## Discover Engineering!

Grades: 1st-3rd Grade

Dates: Wednesdays - 10/26, 11/9, 11/16,  
11/30, 12/7, 12/14

Times: 3:30 - 5:30 PM

Cost: \$225

Through this after school workshop, children will be introduced to different types of engineering in fun and creative ways. Children will learn about the engineering design process while exploring different hands-on activities. The workshops will be a combination of open-ended, hands-on robotic (LEGO WeDo 2.0) and non-robotics activities. From building bridges and parachutes to learning about electricity using playdoh, children will get a sense of what engineers have the potential to create.

Register Here: <https://goo.gl/forms/aZGG8XMuPpwWjzFa2>



## Engineering Around the World

Grades: 3rd-6th Grade

Dates: Thursdays - 10/27, 11/3, 11/10, 11/17,  
12/1, 12/8

Times: 4:00 - 6:00 PM

Cost: \$225

Through this after school workshop, children will explore science and engineering while learning about countries around the world. The workshops will be a combination of open-ended, hands-on robotic (LEGO Mindstorms EV3) and non-robotics activities. Children will learn about the engineering design process while also learning about the problems that other countries face. They will be given a variety of tasks from building sturdy structures for Haiti, to building a soccer-playing EV3 Robot for Brazil and much more.

Register Here: <https://goo.gl/forms/fdbq6mtSOscwBERq1>



# Saturday Workshops

## The Art of Engineering

Date: 10/8

Times: 9 AM - 3 PM

Cost: \$75

Grades: K - 2nd

This workshop will allow children to explore science and engineering through different forms of art. The workshops will be a combination of open-ended, hands-on robotic

(LEGO WeDo 2.0) and non-robotics activities. Children will learn about the engineering design process while exploring their creativity, and learning about music, art, and dance.



**Register Here:** <https://goo.gl/forms/AADsKWt2YMs9fOXV2>

## Rube Goldberg Machines

Dates: 10/15

Times: 9 AM - 3 PM

Cost: \$75

Grades: 6th - 8th Grade

Through this workshop, students will explore engineering and robotics while working together to build a Rube Goldberg machine (example; [https://www.youtube.com/watch?v=\\_ve4M4UsJQo](https://www.youtube.com/watch?v=_ve4M4UsJQo)). Students will learn about robotics and programming using the LEGO Mindstorms EV3 kit through open ended design challenges. Their final project will be to work in pairs to create different parts of a cohesive Rube Goldberg machine.

**Register Here:** <https://goo.gl/forms/yJdL3Mo59h36pgXh2>

## Engineering a Day Pack

Dates: 10/22

Times: 9 AM - 3 PM

Cost: \$75

Grades: 3rd - 5th Grade

Have you ever dropped a cell phone? This session will introduce students to the engineering design process through first hand experience. Using everyday materials and a curriculum based on the Museum of Science's EiE Engineering Adventure To the Rescue: Engineering Aid Drop Packages, they will design, build, and test day packs that can be dropped from a stairwell and protect what's inside - including a pretend cell phone. Who knows - they may even find it will protect a real one!

This workshop will be located at the Pitcher Curriculum Resource Lab at the Eliot-Pearson Center for Child Study and Human Development at Tufts University. (105 College Avenue Medford, MA 02155)

Register Here: <https://goo.gl/forms/LUC4aCid90JmR6go1>

## STEAM Series

Dates: 11/5, 11/12, 11/19

Times: 9 AM - 12 PM

Cost: \$140

Grades: K - 2nd Grade

Want a little more technology and engineering in your weekend? Join our STEAM Series for children in grades K-2. Each Saturday we'll present new topics and hands-on activities for kids to explore. They will have fun programming robots, using exciting apps, and experiencing art, movement, and music to create personally meaningful projects.

Register Here: <https://goo.gl/forms/NmiTQJz6sm63Gyl83>

## Superheroes

Dates: 11/5, 11/12, 11/19

Times: 1 PM - 4 PM

Cost: \$140

Grades: 3rd - 5th Grade

Sometimes the best superpower is your brain! In this 3-day workshop, students will learn about many different types of engineering (aeronautical, mechanical, computer, electrical, biomedical, etc) in order to engineer solutions for their favorite superheroes. Students will explore the Engineering Design Process by completing fun design challenges building with LEGO, robotics, and craft materials!

Register Here: <https://goo.gl/forms/eA5tv8QeeTLGPC1H3>