



Wade Institute for Science Education

1354 Hancock St., Ste. 302
Quincy, MA 02169

Engaging Students in the Engineering Design Process Using Sensors

A 2-day workshop for grades 6-12 educators



Join the **Wade Institute for Science Education** for a two-day professional learning experience as we explore coding and electronics through fun, engaging, hands-on projects using the Arduino Open Source Electronics Platform!

**October 14th & 15th,
2022**

Register Today!

wadeinstitutema.org/focus-workshops

Engaging Students in the Engineering Design Process Using Sensors

A 2-day workshop for grades 6-12 educators



Dates and Times:

Friday, October 14th and
Saturday, October 15th
(8:30 AM - 3:30 PM ET)

Location:

Bristol Community
College

Cost:

\$225 per participant.
\$175 per participant if
attending as a team with
2 or more additional
teachers from your
school or district.

PDPs:

12 PDPs will be awarded
for participation.

To Register:

Visit [wadeinstitutema.org](http://wadeinstitutema.org/focus-workshops)
/focus-workshops

Contact Us:

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Delve into a variety of investigations that explore using Arduino Sensors with your students! Build a control panel for your Starship, create a Love-O-Meter, design a Color Mixing Lamp, experiment with a Motorized Pinwheel and make your own Light Theremin (a musical instrument you play by waving your hands). We will model how to engage students with hands-on lessons that develop an understanding of the engineer design process, including using engineering design drawings and bread boards, as we explore the concepts of current, voltage, and digital logic as well as the fundamentals of programming.

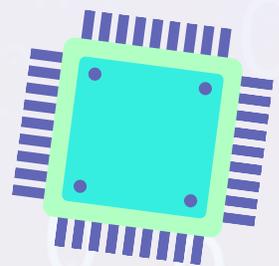
Experience how to guide student driven learning through critical thinking and collaborative learning activities as your students work to solve problems. We will share how the technology is used in real world applications in a wide range of industries that affect our lives as well as how this technology is used in scientific studies.

As the final component of the workshop, you will be asked to select a design challenge you would like to incorporate into your own curriculum and brainstorm with your peers to identify opportunities for students to embed sensors into their projects.

You will leave the workshop with an Arduino kit to start using these materials and investigations in your classroom. This sensor workshop is designed for Arduino beginners and intermediate users. Other sensors can be used along with the products that can be created with the kits.

Workshop Highlights:

- **Examine** and use two-dimensional and three dimensional drawings to design your sensor device
- **Identify** how Arduino can be used to address Phenomena-Based Learning in any science course
- **Walk away with** your own sensors kit and lessons to use in your classroom
- **Gain access to** on-line program software (can also be downloaded to laptops) for students to use to program their projects
- **Make connections** with industry partners as a classroom resource for teachers
- **Hands-on practice** with sensors as you work with middle and high school teachers who use these devices in their classrooms



This workshop is partially funded by the Sensata Technologies Foundation.